

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. (Canceled)
2. (Previously Presented) Process for the preparation of a cathode according to claim 43 in which the porosity of said porous material, measured by mercury porosimetry, varies from 1 to 99%, endpoints included.
3. (Previously Presented) Process for the preparation of a cathode according to claim 2 in which the porosity of said material varies from 20 to 80%, endpoints included.
4. (Previously Presented) Process for the preparation of a cathode according to claim 43 in which the average size of the pores in said porous material varies from 1 nanometer to 1 micrometer, endpoints included.
5. (Previously Presented) Process for the preparation of a cathode according to claim 4 in which the size of the pores varies from 10 to 250 nanometers, endpoints included.
6. (Previously Presented) Process for the preparation of a cathode according to claim 43 in which the distribution of the pores is substantially uniform.
7. (Previously Presented) Process for the preparation of a cathode according to claim 43 in which the pores are located at the surface of the porous material and extend throughout said porous material.
8. (Previously Presented) Process for the preparation of a cathode according to claim 7 in which said pores do not extend entirely throughout the porous material.

9-41. (Canceled)

42. (Previously Presented) Process for the preparation of a cathode, the process comprising:

pressing a target of cathode material, said cathode material is selected from the group consisting of LiCoO_2 , LiMn_2O_4 , $\text{LiMn}_{1/3}\text{Ni}_{1/3}\text{Co}_{1/3}\text{O}_2$, $\text{LiMn}_{1/2}\text{Ni}_{1/2}\text{O}_2$, LiMPO_4 , wherein M is Fe, Co, Ni or Mn, and mixtures of at least two thereof,

applying a laser on the target at capacities varying from 20 mW to 2 W to produce the porous material that constitutes the cathode,

stripping the cathode material from the target with a laser, and

depositing the porous cathode material on a porous Si/carbon/electrolyte half-battery.

43. (Previously Presented) Process for the preparation of a cathode, the process comprising:

preparing a paste solution by mixing a cathode powder with a carrier solution, of toluene, heptane or a mixture of at least two thereof;

coating the paste solution on a plate support made of glass placed a distance from a substrate of silicon;

applying a UV radiation laser beam through the plate support and projecting the cathode on the substrate by pyrolysis,

wherein the cathode comprises a porous material.

44-52. (Canceled)

53. (Previously Presented) The process for the preparation of a cathode according to claim 43, wherein the plate support made of glass is placed 100 μm from the substrate of silicon.

54. (Previously Presented) Process for the preparation of a cathode according to claim 42, in which the porosity of said porous material, measured by mercury porosimetry, varies from 1 to 99%, endpoints included.

55. (Previously Presented) Process for the preparation of a cathode according to claim 54 in which the porosity of said material varies from 20 to 80%, endpoints included.

56. (Previously Presented) Process for the preparation of a cathode according to claim 42 in which the average size of the pores in said porous material varies from 1 nanometer to 1 micrometer, endpoints included.

57. (Previously Presented) Process for the preparation of a cathode according to claim 56 in which the size of the pores varies from 10 to 250 nanometers, endpoints included.

58. (Previously Presented) Process for the preparation of a cathode according to claim 42 in which the distribution of the pores is substantially uniform.

59. (Previously Presented) Process for the preparation of a cathode according to claim 42 in which the pores are located at the surface of the porous material and extend throughout said porous material.

60. (Previously Presented) Process for the preparation of a cathode according to claim 59 in which said pores do not extend entirely throughout the porous material.

61-62. (Canceled)

63. (Currently Amended) Electrochemical system, the electrochemical system being a battery comprising:

at least one cathode ~~as defined in claim 61~~ obtained by implementing a process comprising:

pressing a target of cathode material, said cathode material is selected from the group consisting of LiCoO₂, LiMn₂O₄, LiMn_{1/3}Ni_{1/3}Co_{1/3}O₂, LiMn_{1/2}Ni_{1/2}O₂, LiMPO₄, wherein M is Fe, Co, Ni or Mn, and mixtures of at least two thereof,

applying a laser on the target at capacities varying from 20 mW to 2 W to produce the porous material that constitutes the cathode,
stripping the cathode material from the target with a laser, and
depositing the porous cathode material on a porous Si/carbon/electrolyte half-battery,
at least one anode, and
at least one electrolyte.

64. (Previously Presented) Electrochemical system according to claim 63, wherein the cathode comprises LiCoO₂, LiMn₂O₄, LiMn_{1/3}Ni_{1/3}Co_{1/3}O₂, LiMn_{1/2}Ni_{1/2}O₂, LiMPO₄, wherein M is Fe, Co, Ni or Mn, and mixtures of at least two thereof.

65. (Currently Amended) Electrochemical system, the electrochemical system being a battery comprising:

at least one cathode ~~as defined in claim 62 obtained by implementing a process comprising:~~

preparing a paste solution by mixing a cathode powder with a carrier solution, of toluene, heptane or a mixture of at least two thereof;

coating the paste solution on a plate support made of glass placed a distance from a substrate of silicon;

applying a UV radiation laser beam through the plate support and projecting the cathode on the substrate by pyrolysis,

wherein the cathode comprises a porous material,

at least one anode, and

at least one electrolyte.

66. (Previously Presented) Electrochemical system according to claim 65, in which the electrolyte is a liquid, gel, or polymer.

67. (Previously Presented) Electrochemical system according to claim 63, in which the electrolyte is a liquid, gel, or polymer.